

mens associated with it—one a female from Thursday Island, the other a small male from Torres Straits—the apices are obliquely truncate, with the outer angles produced, especially in the male. The female agrees very well with the figure and description of *Paragnoma acuminipennis*. The genus *Paragnoma* was therefore, as Pascoe and Lacordaire correctly surmised, founded upon the female of a species of *Pelargoderus*, and cannot stand.

(*Monohammus*) *marcipor*, Newm., belongs to the genus *Anammus*; it is intermediate in size and structure between *A. conspersus* and *A. Daleni*.

Monohammus melanostictus, White, is synonymous with *M. beryllinus*, Hope. This species and *Monohammus Bowringii*, White, belong rather to the genus *Melanauster*.

To the genus *Domitia*, Thoms., must be added *D. (Monohammus) viridipennis*, Chevr. This species is possibly identical with the type species *D. lupanaria*, Thoms.; it differs from the description of the latter only in being smaller and in a few other minor particulars. To the same genus doubtless belongs the *Lamia ænea* of Parry, which in the Munich Catalogue is placed in the genus *Sternotomis*. It is uncertain whether this species also is not synonymous with one or both of the species just mentioned.

Agnoderus, Thoms.—This genus is known only from the female sex, which was described by Thomson and Lacordaire, the latter wrongly regarding it as the male. In the male the antennæ are twice as long as the body, and the third, fourth, and fifth joints are almost normal, being slightly and gradually thickened towards their apices, but not so markedly so as in the female. In other respects the two sexes scarcely differ.

There are in the Museum collection five specimens of the type species *A. gnomoides*, Thoms., two males, and three females, all from North India.

In this genus also might be placed *Monohammus desperatus*, Thoms. (= *Fredericus*, White).

LIII.—Notes on Echinoderms collected at Port Phillip by Mr. J. Bracebridge Wilson. By Prof. F. JEFFREY BELL, M.A.

DURING the last few years Mr. J. Bracebridge Wilson has from time to time been so good as to present to the Trustees of the British Museum interesting examples of the Echino-

derm-fauna of Port Phillip. The region investigated by Mr. Wilson seems to be one of much promise; unfortunately many of his specimens are young or solitary examples; I trust therefore that the publication of this list will induce him and perhaps others also to make larger collections in the Victorian waters, and especially to obtain good series of the species collected.

What follows must only be considered as a preliminary notice of the Echinoderm-fauna of Port Phillip, as in many cases the existence of new or incompletely known species is merely indicated. As there is, however, no reason to suppose that we shall not receive more examples from the locality, I think it more advantageous to science to abstain from naming or describing such specimens till we have a more complete series. In the case of two new species of *Antedon* there is, happily, quite sufficient material for description; with the Holothurians this is unfortunately not the case.

List of the Species.

I. CRINOIDEA.

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| 1. <i>Antedon Wilsoni</i> . | 3. <i>Actinometra trichoptera</i> , <i>J. Müller</i> . |
| 2. ——— <i>incommoda</i> . | |

II. ASTEROIDEA.

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|---|---|
| 4. <i>Asterias calamaria</i> , <i>Gray</i> . | 8. <i>Palmipes</i> , <i>sp.</i> |
| 5. <i>Plectaster decanus</i> , <i>M. Tr.</i> | 9. <i>Asterina Gunni</i> , <i>Gray</i> . |
| 6. <i>Nectria ocellata</i> , <i>Perrier</i> . | 10. <i>Patiria crassa</i> , <i>Gray</i> . |
| 7. <i>Tosia grandis</i> , <i>Gray</i> . | 11. <i>Astropecten pectinatus</i> , <i>Sladen</i> . |

III. OPHIUROIDEA.

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|---|---|
| 12. <i>Pectinura arenosa</i> , <i>Lyman</i> . | 14. <i>Ophiomyxa australis</i> , <i>Lütke</i> . |
| 13. <i>Ophiothrix</i> , <i>sp.</i> | |

IV. ECHINOIDEA.

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| 15. <i>Gonicidaris geranoides</i> , <i>Lamk.</i> | 19. <i>Strongylocentrotus tuberculatus</i> , <i>Lamk.</i> |
| 16. <i>Amblypneustes ovum</i> , <i>Lamk.</i> | 20. ———, <i>sp. (juv.)</i> . |
| 17. ———, <i>sp.</i> | 21. <i>Lovenia elongata</i> , <i>Gray</i> . |
| 18. <i>Microcyphus zigzag</i> , <i>Ag.</i> | |

V. HOLOTHURIOIDEA.

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| 22. <i>Molpadia</i> , <i>sp.</i> | 24. <i>Colochirus australis</i> , <i>Ludw.</i> |
| 23. <i>Cucumaria inconspicua</i> , <i>Bell</i> . | 25. <i>Holothuria</i> (2 or 3 species). |

Notes and Descriptions.

Antedon Wilsoni.

General formula $A_{\frac{b}{5}}$.

This belongs to the *Basicurva*-group of Dr. Herbert Carpenter *, and is the first of the group which I have as yet had the opportunity of examining; it goes in the second division, or that in which the pinnule-ambulacra are not plated, and has the same general formula as the two species in the 'Challenger' collection. From *A. denticulata* it may be distinguished at once not only by the abundance of sacculi but by the first pinnule being the longest; with *A. pusilla* it has many more points of resemblance. The first radials are evident and the numbers of the cirri and cirrus-joints are much the same; but the form of the joints is different; syzygies are much more numerous, the radials have no tubercles, and the basal joints of the later pinnules have not the same form.

Centrodorsal slightly convex, with marginal cirri, in two rows, about fifteen in number; cirrus-joints about thirty, outer cirri longer than inner, owing chiefly to the greater length of the basal joints; the basal joints are much longer than broad; this character gradually diminishes in the more distal joints; the outer cirri are also stouter than the inner.

First radial just visible, the second broader than long, with straight edges but no tubercle, the third radial with a nearly straight proximal edge and two distal axillary curves.

Ten arms; a notch between second and third brachial, the succeeding joints overlap a little from side to side; syzygies in the third, sixth, and ninth brachials, then generally in every second.

Pinnules short, the first is the longest, has ten (or more) joints, the third and fourth of which are very elongated, but it is not at all stout; the later pinnules are not unlike those of *A. pusilla*, as figured by Dr. H. Carpenter.

Pinnule-ambulacra not plated; sacculi numerous.

Colour in spirit white.

Spread about 60 millim., but none of the arms are quite complete.

Hab. Port Phillip.

It is quite clear that this is the representative on the south coast of Australia of *A. pusilla* of Torres Straits; it is not often that one gets such obvious signs of relationship.

* Chall. Reports, part lx. p. 102.

Antedon incommoda.

This species, like *A. bidens*, does not fall into the groups proposed by Dr. H. Carpenter. It appears to be common at Port Phillip, as several specimens have been sent. Like *A. bidens* it has pinnules on the second and third brachials and the first pinnule is the longest; but it is distinguished from *A. bidens* by the much greater slenderness of the pinnules, the want of stiffness in the arms, which are not markedly compressed, the greater number of syzygies, and the smaller number of cirrus-joints.

General formula $A \frac{b}{a}$.

Centrodorsal flat, central part free of cirri; cirri about thirty in number, with about twelve joints; the dorsal side of the joints indented much as in *A. bidens*; most of the joints are longer than broad and have the distal edge projecting and overlapping.

First radials hidden, second broader than long, not in contact, third irregularly triangular, not protuberant.

Ten arms; first brachials in contact, longer without than within; second also longer without than within, but not protuberant; the third, which are syzygial, are longer within than without. The next two or three are more regularly quadrate, the successors alternately wider on outer and inner sides; but there is not the pronounced overlap that there is in *A. bidens*.

Syzygies 3, 8, 12, then every third.

The first pinnule is the longest, but is not very long; the rest are rather short and are not so stiff and well marked as in *A. bidens*.

Colour white, brownish with two dark bands or dark with central lighter band on dorsal surface; cirri light in colour.

Spread about 70 millim.

Here again we have a species which curiously resembles in many points a form from Torres Straits.

Actinometra trichoptera.

This is obviously a very abundant species at Port Phillip and is as yet the only member of the genus that has been sent by Mr. Wilson. I look forward with interest to the arrival of fully grown individuals, as I suspect, from what I have seen of the small specimens that have reached us, that the cirri will exhibit an interesting dimorphism.

Plectaster decanus.

I was able last year to note the presence of *Echinaster decanus* in the waters of Port Jackson (Proc. Linn. Soc. N. S. W. [2] ii. p. 1074) ; the affinities of the species will be discussed by Mr. Sladen in his forthcoming 'Challenger' Report ; he informs me that he has instituted a new genus, which he calls *Plectaster*, for its reception ; this is quite in accordance with the expectation of Dr. E. P. Ramsay, who is reported (*loc. cit.*) to have expressed his opinion as follows :— "although closely allied to *Echinaster*, I believe it will eventually find its way into a new genus."

Palmipes, sp.

Here we have a small specimen too young to be definitely determined. I cannot think it to be the young of *Palmipes inflatus*, Hutton, though, like it, it has the adambulacral spines imbedded in the integument. It is probably an immature example of an undescribed species.

Microcyphus zigzag.

A small specimen of this species, with a diameter of less than 10 millim., has the test of a most beautiful rosy colour, which does not appear to be lost by preservation in alcohol.

Strongylocentrotus, sp.

There is a single small specimen which, with a little hesitation, I refer to this genus ; it is remarkable for the thick covering of scales found on the buccal membrane. Mr. A. Agassiz defines the genus as having the membrane bare. As, however, the specimen is young, and bearing in mind the variations presented by different specimens of *Echinus*, I think we may regard this as an immature example of what will probably be found to be a new species of *Strongylocentrotus*. The spines are white, rather short, and rather stout.

Molpadia, sp.

There is, unfortunately, only one example of a species of this genus ; it is not, I think, the same as *Molpadia australis*, Semper, for its spicules are much more regular ; a more com-

plete judgment on the matter had better be postponed till a larger series of specimens is available.

Cucumaria inconspicua.

It may be convenient to reprint the description of this species from the 'Proceedings of the Zoological Society,' 1887, p. 532:—

"Small, stout, a little rough to the touch, with the suckers not quite definitely limited to the ambulacra, though very often nearly so; the trivial suckers are in four and the bivial in two fairly regular rows. No anal teeth. The pharyngeal ring large, the muscles stout and inserted at once into the body-wall; the ring appears to be made up of five * sets of equal pieces, formed probably by the equal radial and inter-radial calcifications; the Polian vesicle is large.

"The genital tubes are long, simple, and not numerous.

"The spicules are rare and are only in the form of large deposits of the shape shown in plate xlv. fig. 3.

"Colour, varying shades of dark slate or brown.

"Average length 17 millim., average greatest breadth 6 millim.

"Port Phillip Heads. Collected by J. B. Wilson, Esq.

"The irregularity of the arrangement of the suckers of this species appears to afford a strong argument against the division of the genus *Cucumaria* into *Cucumaria* s. str. and *Semperia*, which has been proposed by Lampert."

It will give a little more completeness to these notes if I add the names of the species collected by the 'Challenger,' but not included in Mr. Wilson's collections, from shallow water near Port Phillip. Mr. Sladen has kindly given me the names of the Asteroidea; the additional species are *Asterias polyplax* and *Nectria ocellifera*.

The Ophiuroids, as reported by Mr. Lyman, were

Ophioglypha Kinbergi, Lym.

Ophiobyrsa rudis, Lym.

Ophiocnida pilosa, Lym.

Ophionereis Schayeri, M. Tr.

Ophiothrix aristulata, var., Lym.

* "Fine" in the original is a misprint for "five;" as a matter of fact the pieces are rather stout.

Mr. A. Agassiz found the following Echinoids:—

- Goniocidaris tubaria*, Lamk.
Amblypneustes formosus, Val.
 — *pallidus*, Lamk.
Sphaerechinus australiæ, A. Ag.
Echinanthus testudinarius, Gray.
Laganum Peroni, Ag.

There were no additional Crinoids or Holothurians.

LIV.—*Diagnoses of four new Mammals from the Malayan Region.* By OLDFIELD THOMAS.

1. *Hylomys suillus dorsalis*, var. nov.

Essential characters as in the typical variety, but with a more or less distinct black line running from between the eyes down the neck to the middle of the back.

Head and body (c.) 116 millim.; tail 16; hind foot 25.

Hab. Mount Kina Balu, North Borneo (*Mr. J. Whitehead*).

2. *Sciurus concinnus*, sp. n.

Very similar to *S. exilis*, Müll., but rather larger, and with the colour of the back a deeper and more uniform rufous, the general colour being almost as rufous as in the common bank-vole (*Evotomys glareolus*, Schr.). The hind feet are larger and heavier than in *S. exilis*, and their hairy part is of much less extent, the posterior part being covered for less than 8 millim., as compared to more than 9 millim. in the other and smaller species. This hairy part is grizzled olive in *S. concinnus* and yellow in *S. exilis*. The posterior sole-pad is oval instead of circular, and is situated much further back on the foot, the distance from its front edge to that of the middle digital pad being about 7.0 millim., as compared to $3\frac{1}{2}$ millim. in *S. exilis*. The tail is longer and rather bushier in *S. concinnus* than in its Bornean ally.

Turning to the skull we find that the general shape is much the same in the two species, but that the muzzle in *S. con-*